

Coordinating Agencies: Local government, Public Service Districts
Supporting Partners: RPDCs, USDA, WVIJDC, WVBPH, WVDOC, Appalachian
Regional Commission, EDA, USACE

Goal: Upgrade existing water and sewer system to better serve impacted area.

Objective: *Upgrade condition and capacity of at least 50 percent of the identified existing water and sewer systems by 2025*

Strategy: **Analyze and upgrade water and sewer capacity in the impacted area**

Action:

- Conduct a water and sewer capacity study to identify needed upgrades and to prioritize projects based on need. Studies should include consolidation possibilities, and consider opportunities to establish regional utility authorities (Intermediate)

Coordinating Agencies: RPDCs, local governments, and public service districts

Supporting Partners: WVIJDC, WVDEP, WVBPH, Appalachian Regional
Commission, WVDOC, USDA, EDA, USACE, EPA

Action:

- Select the top identified needs, pursue funds, design, and construct (Intermediate)

Coordinating Agencies: RPDCs, local governments, and public service districts

Supporting Partners: WVIJDC, WVDEP, WVBPH, Appalachian Regional
Commission, WVDOC, USDA, USACE, EPA

Action:

- Consolidate water/sewer service and/or form regional authorities to enable shared operation and management services (Intermediate)

Coordinating Agencies: Regional utility systems

Supporting Partners: WVIJDC, WVDEP, WVBPH, Appalachian Regional
Commission, WVDOC, USDA, EDA, USACE

Goal: Removal of abandoned dilapidated buildings in impacted communities

Objective: *Demolish 60 percent of unsafe structures in flood impacted communities*

Strategy: **Enact a code enforcement program**

Action:

- Form a building commission for legal condemnation and enforcement (Intermediate)

Coordinating Agencies: Local governments

Supporting Partners: RPDCs

Action:

- Adopt building codes (Intermediate)

Coordinating Agencies: Local governments

Supporting Partners: RPDCs

Action:

- Secure funding to create and provide staffing for a code enforcement department; options could include the establishment of a business and occupation tax program, shared staffing programs, and grant applications (Intermediate)

Coordinating Agencies: local governments

Supporting Partners: USDA, EDA, WVDOC, Appalachian Regional Commission

Goal: Ongoing debris removal program in flood impacted area

Objective: *Removal of 80 percent of remaining stream and river debris in flood impacted area by the end of 2017*

Strategy: Establishment and implementation of a program to remove debris (FEMA ineligible) from waterways in the impacted area

Action:

- Establish a list of all debris sites (Short-term)

Coordinating Agencies: West Virginia Conservation Authority, local governments

Supporting Partners: EPA, Appalachian Regional Commission, EDA, RPDCs, WVARNG, WVDOC, private foundations

Action:

- Secure funds and remove debris (Short-term)

Coordinating Agencies: West Virginia Conservation Authority, local governments

Supporting Partners: RPDCs, WVARNG, WVDOC, Appalachian Regional Commission, EDA, private foundations

Issue: Support to Create and Sustain Regional Brands

Community and regional brands are often the most vulnerable assets when a major economic disruption occurs. A community's brand, the word-of-mouth public perception, images, messages, promotions, and the regional economy are inextricably related. When any one of these elements sustains damage, all are adversely affected.

This interconnected relationship is particularly evident in regions directly impacted by the 2016 flood. These rural areas are in the heart of the coal producing region and, therefore, were already dealing with the challenge of building a brand that would attract new businesses, residents, and visitors. The state's tourism brand "Wild and Wonderful", which promotes the many outdoor recreation options, is still challenged by the negative publicity and misinformation that has been spread through traditional and social media channels since the flood. The Economic RSF and its federal partners have met with regional and state economic development and tourism leaders in the most heavily impacted southern region, including Fayette, Greenbrier, Nicholas, Pocahontas, and Webster counties, to discuss the impact of the recent flood on local businesses, many of which depend on tourist dollars. The regional leaders said they would like to pursue the development of a regional branding strategy that would assist in attracting businesses, residents, and visitors to the

area. Federal partners plan to work with the Region 4 Planning and Development Council and its members to explore resources to develop a branding strategy.

The center of the current tourism industry and a key player in building a southern West Virginia region is Greenbrier County; a county that generates \$98 million annually in economic revenue. It is home to the most well-known tourist destination in the state, the Greenbrier Resort, which employs about 1,800 individuals. It was closed for weeks and its signature event, the Greenbrier Classic PGA Tour tournament, was canceled because of the June flood. At the time of the tournament cancellation there were about 33,000 ticket holders, and all 710 guest rooms had been rented. When fully accounted, the resort owners expect the losses will be in the millions of dollars. Greenbrier County's Convention and Visitors Bureau created the "Tourism Recovery Marketing Plan" aimed at countering the public's impression that the devastation caused by the flash flooding has closed the region's tourism industry.

Goal: Minimize post disaster impact on regional brands

Objective: *To develop a strategy to manage and counter negative media coverage and public perception of regional brands following a disaster in 2017*

Strategy: Develop policy and procedures to guide local and regional leaders on how to manage media and counter negative publicity

Action:

- Develop a disaster response/crisis communication plan to direct tourism marketing and business response activities before, during, and after a major disruption of tourism destinations and businesses (Intermediate)

Coordinating Agencies: WV Division of Tourism

Supporting Partners: WVDOC, WVACVBs, local EDAs, RPDCs, industry organizations

Strategy: Establish a dedicated source of funding to execute a tourism communications and branding campaign to counter negative publicity following a disaster

Action:

- Conduct a survey of other states to identify funding sources for tourism promotion and branding (Short-term)

Coordinating Agencies: WV Division of Tourism

Supporting Partners: WVDOC, WVACVBs, local EDAs, and RPDCs

Action:

- Identify funding sources to create a rainy-day fund to support development of a marketing and public relations disaster response campaign (Intermediate)

Coordinating Agencies: WV Division of Tourism

Supporting Partners: WVACVBs, local EDAs, and RPDCs

Action:

- Develop disaster response public relations and branding plan to direct tourism promotion activities and business recovery communications in a post disaster environment (Intermediate)

Coordinating Agencies: WVDOC, WV Division of Tourism

Supporting Partners: WVACVBs, local EDAs, and RPDCs

Potential Resources:

Appalachian Regional Commission

[Community Infrastructure](#) focuses primarily on the provision of water and wastewater services to support business and community development projects, and to alleviate public and environmental health hazards.

[Entrepreneurship and Business Development](#) supports a variety of activities to promote entrepreneurship and business development in the Appalachian Region. These activities help diversify the Region's economic base, develop and market strategic assets, increase the competitiveness of existing businesses, foster the development and use of innovative technologies, and enhance entrepreneurial activity. ARC entrepreneurship and business development activities include:

- Giving entrepreneurs' greater access to capital, including support for microcredit programs, revolving loan funds, and development venture capital funds.
- Educating and training entrepreneurs through youth education programs and adult training initiatives.
- Encouraging sector-based strategies to maximize the economic strengths of local communities; and
- Providing strategic support for business incubators and other forms of technical assistance.

[Grant Programs](#) awarded to states, public bodies, and private nonprofits for projects that create opportunities for self-sustaining economic development and improve quality of life for the people of Appalachia. ARC has four different types of Grants that fund environmental protection related activities: regional development grants, area development grants, local development district assistance grants, and research, technical assistance, and demonstration project grants. Grants for physical basic infrastructure including water and sewer facilities that enhance economic development opportunities or address serious health issues for residential customers.

CNCS

[Corporation for National and Community Service](#) helps millions of Americans improve the lives of their fellow citizens through service. Working hand in hand with local partners, CNCS invests in thousands of nonprofit and faith-based groups that are making a difference across the country through AmeriCorps, Senior Corps, the Social Innovation Fund, and the Volunteer Generation Fund Programs

EPA

[Drinking Water State Revolving Funds \(DWSRF\)](#) is offered through the West Virginia Bureau for Public Health and is a partnership between federal and state to help ensure safe drinking water, the program provides financial support to water systems and to state safe water programs. States get the revolving funds and match it then use that money to provide loans and other authorized assistance to fund eligible infrastructure projects. Used for drinking water treatment, fixing leaky or old pipes, water supply source, etc. As communities pay back their loans the money goes back into the pot to be revolved and used again somewhere else.

FEMA

[Hazard Mitigation Grant Program \(HMGP\)](#) assists in implementing long-term hazard mitigation planning and projects following a Presidential major disaster declaration, the state needs a FEMA approved Enhanced State Mitigation Plan at the time of the disaster declaration to be eligible for increased funds under HMGP.

[Flood Mitigation Assistance \(FMA\) Program](#) is for projects and planning that reduces or eliminates long-term risk of flood damage to structures insured under the National Flood Insurance Program. FEMA requires state or local governments to develop and adopt hazard mitigation plans as a condition for receiving certain types of non-emergency disaster assistance.

[Pre-Disaster Mitigation \(PDM\) Program](#) assists states or local communities in implementing a sustainable pre-disaster natural hazard mitigation program. The goal is to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on Federal assistance funding in future disasters. This program awards planning and project grants and provides opportunities for raising public awareness about reducing future losses before disaster strikes.

HUD

[CDBG](#) includes annual grants to qualified cities and counties to provide housing, expand economic opportunities and carry out a wide range of community development activities, including the construction and upgrade of public utilities such as water and sewer facilities. It should be noted that HUD funding only targets areas and populations which fall within certain economic criteria (poverty, minorities).

ITA

[The Global Markets Unit](#) combines ITA's country and regional experts, overseas and domestic field staff, and specific trade promotion programs to provide U.S. firms with the full suite of country-specific export promotion services and market access advocacy, while promoting the United States as an investment destination.

NEMA

[National Emergency Management Association](#) provides information, support, and expertise for emergency management professionals at all levels of government and the private sector who prepare for, mitigate, respond to, recover from, and provide products and services for all emergencies, disasters, and threats to the nation's security.

NRCS

[Emergency Watershed Protection Program](#) provides funding and technical assistance to conserve natural resources; this is an emergency recovery program. Removes debris from streams, road culverts, and bridges, reshapes and protects eroded banks, repairs damaged drainage facilities, etc.

NTIA

[NTIA](#) manages two broadband grant programs funded by the American Recovery and Reinvestment Act. **Broadband Technology Opportunities Program (BTOP)** and the **State Broadband Initiative (SBI)** through these programs, NTIA is overseeing an investment of approximately \$4 billion in projects throughout the United States to support the deployment of broadband infrastructure, enhance and expand public computer centers, encourage sustainable adoption of broadband service, and promote statewide broadband planning and data collection activities. The State Broadband Initiative is also responsible for creation and maintenance of the **National Broadband Map**.

RISE WV

[RISE WV](#) helps communities rebuild in a way that promotes economic prosperity above and beyond pre-flood levels. RISE West Virginia was created in response to critical needs in the small business community resulting from the devastating floods of June 2016. This public-private grant program provides assistance for small businesses that were operational before the flooding and are working to reopen while struggling with existing debt and limited resources. The West Virginia Development Office oversees the program in partnership with the West Virginia Chamber of Commerce.

RPDCs

[Regional Planning and Development Councils](#) there are 11 RPDCs covering WV, each with its own counties' service areas each with its own unique blend of programs to strategically and effectively plan for the comprehensive development of its service area. Such planning includes, but is not limited to, infrastructure development, economic development, education, community development, health care improvement, resource development, intergovernmental coordination, social enrichment, transportation enhancement, and environment protection. Inclusive and integral to the Council's comprehensive planning is the ultimate goal of ensuring that the region's public Services and facilities are maintained at acceptable levels toward the aim of promoting general health, safety, economic prosperity, and welfare of all its citizens.

SBA

[US Small Business Administration-Business Assistance Programs](#) offers programs to aid, counsel, and assist small businesses, preserve free competitive enterprise, and maintain and strengthen the overall economy through technical assistance and loans.

[Small Business Development Centers](#) provide expert guidance to help small businesses succeed. They provide services and assistance throughout the development process including concept, startup, and growth.

SCORE

[SCORE West Virginia](#) mentors, comprised of active and retired business men and women, provide clients with free and confidential business counseling. Counseling can be conducted at the client's place of business, at our chapter headquarters, by telephone or via email.

USACE

[Environmental Infrastructure Section 340](#) provides design and construction assistance to nonfederal interests, including nonprofit entities, for carrying out water related environmental infrastructure and resource protection and development projects in southern WV, including projects for wastewater treatment and related facilities; water supply, storage, treatment, and distribution facilities; surface water resource protection and development, and environmental restoration. These projects are cost shared with a nonfederal sponsor and funded 75% Federal and 25% nonfederal.

[Environmental Infrastructure Section 571](#) provides design and construction assistance to non-Federal interests, including nonprofit entities, for carrying out water related environmental infrastructure and resource protection and development projects in southern WV, including projects for wastewater treatment and related facilities; water supply, storage, treatment, and distribution facilities; surface water resource protection and development for 18 counties in central WV. Projects are selected for implementation from a competitive application process administered by the Corps and the WVIJDC. Projects are cost shared 75% Federal and 25% nonfederal.

[Flood Plain Management Services Section 206](#) provides a full range of technical services and planning guidance that is needed to support effective flood plain management, funding must be requested and is provided to state, regional, and local governments.

[Silver Jackets](#) Partnership between Federal and State agencies who work together to leverage resources and funding. The Silver Jackets program goals are to facilitate strategic life-cycle flood risk reduction, create or supplement continuous mechanism to collaboratively solve state-prioritized issues and implement or recommend those solution. Leverage and optimize resources, improve and increase flood risk communication and present a unified interagency message, and establish close relationships to facilitate integrated post-disaster recovery solution.

USDA

[Rural Development-Rural Community Development Initiative Grants](#) provides funding to help non-profit housing and community development organizations support housing, community facilities, and community and economic development projects in rural areas.

[Rural Business Development Grants](#) Assists the startup or expansion of small and emerging private businesses and/or non-profits in rural communities. **Note:** This program combines the former Rural Business Enterprise Grant and Rural Business Opportunity Grant programs and was created through the 2014 Farm Bill.

[Rural Micro-entrepreneur Assistance Program:](#) Establishes revolving funds to target assistance to small rural enterprises. Provides loans, technical, and capacity- building assistance to businesses with 10 or fewer employees and sole proprietorships.

- [Rural Economic Development Loans and Grants:](#) Programs to finance economic development and job creation in rural areas. Rural Utilities Service- financed electric and telephone utilities. Business startups or expansion projects that create rural jobs. Rural areas with priority to places with populations of 2,500 or less.
- [Value Added Producer Grants:](#) Helps agricultural producers enter into value-added activities related to the processing and/or marketing of bio-based, value-added products. Generating new products, creating and expanding marketing opportunities, and increasing producer income are the goals of this program.

USDOL

[Worker Education and Training](#) provides programs for building the skills and competencies of American workers essential to ensuring the competitiveness of business in the global economy. The public workforce system recognizes that training for individuals must align with the needs of business and industry. There are several ways that the public workforce system supports this need for training.

- **Pre-employment Training:** Most of the training offered by the public workforce system is available for individuals who are unemployed or underemployed. It is designed to help people develop the skills they need to enter the workforce in a high-growth, high-demand occupation as quickly as possible.
- **On-the-Job Training:** Certain jobs will require training at the workforce that is beyond what individuals receive through pre-employment training. Under certain circumstances, employers may receive reimbursement for up to 50 percent of the costs to provide additional on-the-job training for individuals who were hired through the public workforce system.
- **Incumbent Worker Training:** The majority of training opportunities through the public workforce system are for individuals who are unemployed or underemployed, however, many states and local areas also support incumbent worker training as a critical facet of their regional economic development strategy. In fact, lifelong learning is increasingly the

norm--and continuous skill development is often required to keep a step ahead of the global competition.

- Registered Apprenticeship: Provides registered apprenticeship program as a structured way for companies to support career development for their employees.

DOEd

[Adult Education and Literacy Programs](#) administers programs that help American adults get the basic skills they need including reading, writing, math, English language proficiency, and problem-solving to be productive workers, family members, and citizens.

EDA-DOC

[EDA Public Works and Economic Adjustment Assistance Programs](#)

- Public Works Programs: empowers distressed communities to revitalize, expand, and upgrade their physical infrastructure to attract new industry, encourage business expansion, diversify local economies, and generate or retain long-term, private sector jobs and investment.
- Economic Adjustment Assistance Programs: assists state and local interests in designing and implementing strategies to adjust or bring about change to an economy. The program focuses on areas that have experienced or are under threat of serious structural damage to the underlying economic base. Under Economic Adjustment, EDA administers its Revolving Loan Fund (RLF) Program, which supplies small businesses and entrepreneurs with the gap financing needed to start or expand their business.
- EDA Planning and Local Technical Assistance Programs: assists eligible recipients in developing economic development plans and studies designed to build capacity and guide the economic prosperity and resiliency of an area or region. The Planning program helps support organizations, including District Organizations, Indian Tribes, and other eligible recipients, with Short Term and State Planning investments designed to guide the eventual creation and retention of high-quality jobs, particularly for the unemployed and underemployed in the Nation's most economically distressed regions.

US Treasury

[The Community Development Financial Institutions Fund \(CDFI Fund\)](#) plays an important role in generating economic growth and opportunity in some of our nation's most distressed communities. By offering tailored resources and innovative programs that invest federal dollars alongside private sector capital, the CDFI Fund serves mission-driven financial institutions that take a market-based approach to supporting economically disadvantaged communities. These mission-driven organizations are encouraged to apply for CDFI Certification and participate in CDFI Fund programs that inject new sources of capital into neighborhoods that lack access to financing.

WorkForce West Virginia

[WorkForce WV](#) provides a one-stop center for work force resources, including job opportunities, unemployment compensation, training, tax incentives, and labor market information. Services are available at 13 comprehensive career centers throughout the state. In addition, WorkForce West Virginia has the largest [online](#) database of job seekers and job openings in the state. By making available the appropriate educational and training opportunities, Workforce WV can provide programs and funding for the work skills needed by businesses.

WVDOC

[Main Street Program](#) provides technical assistance to West Virginia's nationally-certified Main Street communities. Communities learn how to make their revitalization efforts more effective with Main Street services and training customized to meet local needs. Key areas include business retention and recruitment, market analysis, fundraising, vision and strategic planning, and property development.

WVDOT

[Nontraditional Transportation Grant Programs](#) provides support to programs supporting tourism:

- Transportation Enhancement Program (TEP)
- Recreational Trails Program (RTP)
- National Scenic Byways Program (NSBP)

WVDHHS

[Drinking Water/Treatment Revolving Fund](#) provides financial assistance to public water systems to finance the cost of eligible infrastructure improvements needed to comply with the requirements of the Federal Safe Drinking Water Act (SDWA) and to protect public health. The fund established procedures and standards for project eligibility in accordance with the requirements of Federal and State law including the guidance from the EPA and is administered through the West Virginia Bureau for Public Health

WVDHSEM

[Statewide Local Implementation Grant Program](#) provides assistance to State, regional, tribal, and local jurisdictions to identify, plan, and implement the most efficient and effective way for such jurisdictions to utilize and integrate the infrastructure, equipment, and other architecture associated with the nationwide public safety broadband network to satisfy the wireless communications and data services needs of that jurisdiction, including with regards to coverage, siting, and other needs.

WVIJDC

[Infrastructure and Jobs Development Council Grant and Loan Programs and Economic Bond Program](#) was created to be West Virginia's funding clearinghouse for water and wastewater projects. The Economic Infrastructure Bond Fund is a loan program to encourage economic development throughout the state. Funding per project is limited to a maximum of \$3 million.

Housing

U.S. Department of Housing and Urban Development



Mission: *coordinates and facilitates the delivery of Federal resources to implement housing solutions that effectively support the needs of the whole community and contribute to its sustainability and resilience. Housing is a critical and often challenging component of disaster recovery, but must be adequate, affordable, and accessible to make a difference for the whole community.*

This section summarizes key findings impacting the housing situation following the disaster and defines recovery issues, goals, objectives, and strategies for recovery.

Key Findings

The Housing RSF identified three primary recovery issues affecting the designated counties:

- Increased financial burdens on households after the disaster
- Lack of habitable and environmentally healthy housing
- Lack of resilient housing options

Federal, state, and local partners developed the following goals, objectives, strategies, and actions to address these findings.

Issue: Increased financial burdens on households after the disaster

After the June 2016 flooding and landslides, 9006 total registrations were received from survivors in the twelve FEMA designated counties, 4918 applicants received housing assistance and 2168 applicants were ineligible for housing assistance due to the pre-existing condition² of the house, insufficient damage, having flood insurance, or the damaged property was not the applicant's primary residence.

Homeowners most affected by the recent disaster are at a disadvantage due to several factors, including: a lack of economic stability necessary to maintain properties, geographic constraints limiting where homes are located, weak or nonexistent building and land-use codes, discrepancies in property titles, and a general dearth of knowledge on how properties can be mitigated. Although these challenges are not uncommon, they are exacerbated by a general shortage of resources in the

² If a home's pre-disaster condition is excessively deteriorated, FEMA may not attribute the damage to the disaster. For example, if a roof is badly deteriorated and water damage has occurred, the roof may not be included in the damage estimate but the impact of the water in the home would be included in the FEMA Verified Loss.

most affected communities. Irrespective of the support provided by FEMA, community or other organizations, there is a significant unmet financial need experienced by virtually every survivor. Homes and communities which are resilient are more capable of recovering from disasters without excessive economic impact to the residents.

Goal: Build housing resiliency by minimizing financial risk due to disaster

Objective: *Increase household resiliency by educating 70% of the households by 2019*

Strategy: Educate households on preparedness options

Action:

- Develop and execute communication strategies to educate homeowners and renters in the most vulnerable areas on available resources and programs, such as the USDA Prudent Preparedness Program or the American Red Cross Disaster Preparedness Plan (Intermediate)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: HUD, USDA, WVDHSEM, American Red Cross, FEMA

Strategy: Develop incentives to encourage mitigation strategies while rebuilding.

Action:

- Form a task force to develop incentive strategies that promote effective mitigation to support long-term community resilience (Intermediate)

Coordinating Agencies: WVDOC (SRO), WVDHSEM

Supporting Partners: HUD, USDA, FEMA

Action:

- Support local communities to incorporate mitigation task force recommendations into their recovery strategies (Intermediate)

Coordinating Agencies: WVDOC (SRO), WVDHSEM

Supporting Partners: RPDAs, local governments

Action:

- Mitigate all damaged structures. (Long-term)

Coordinating Agencies: WVDOC (SRO), WVDHSEM

Supporting Partners: HUD, USDA

Strategy: Complete all home repairs to disaster-damaged units not involving structural mitigation

Action:

- Identify federal, state, and nongovernmental resources to assist families and homeowners impacted by flooding who have limited financial means to address stresses associated with home ownership, such as those that HUD Housing Counseling programs provide. (Long-term)

Coordinating Agency: WVVOAD

Supporting Partners: Philanthropic Groups, Case Managers, WVDOC (SRO)

Action:

- Identify programs and organizations to assist homeowners with customary home repairs not involving structural mitigation, such as those offered by National VOADs including faith-based organizations, financed by private donations and philanthropic organizations. (Short-term)

Coordinating Agency: WVVOAD

Supporting Partners: Philanthropic Groups, Case Managers, WVDOC (SRO)

Strategy: Provide owners of older and historic homes with guidance to mitigate their flood damaged structures

Action:

- Provide coordination regarding the availability of Hazard Mitigation Grant Program (HMGP) funds to mitigate impacted older and historic homes. (Intermediate)

Coordinating Agency: WVDHSEM

Supporting Partners: Department of the Interior (DOI), HUD, FEMA-EHP, AIA, APA, WV Home Builders Association

Action:

- Schedule a workshop with interested state or regional planning, architectural, and engineering associations and organizations to develop a model hazard mitigation guide for older and historic homes. (Intermediate)

Coordinating Agency: WVDHSEM

Supporting Partners: DOI, HUD, FEMA-EHP, AIA, WV Home Builders Association

Strategy: Address property title issues that prevent eligibility for federal assistance

Action:

- Identify programs to help citizens living on heirship properties obtain ownership documentation, such as those the West Virginia Legal Aid Society offers. (Short-term)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: WVVOAD, FEMA, HUD, Legal Aid Society

Action:

- Develop outreach programs to address legal and credit issues, financial counseling, insurance, *et al* (Short-term)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: WVVOAD, FEMA, HUD, Legal Aid Society

Objective: By January 1, 2018, encourage the adoption of building and land use standards

Strategy: Adopt state-wide land development standards, including modern building code requirements for local adoption and enforcement

Action:

- Conduct educational seminars on land development standards and building code enforcement to satisfy NFIP standards (Intermediate)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: HUD, WVAPA, WVU

Action:

- Conduct peer-to-peer workshops to highlight importance of land development planning and building codes (Intermediate)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: HUD, WVAPA, WVU

Action:

- Retain retired building code officers to enforce codes during disaster recovery (Intermediate)

Coordinating Agencies: WVDOC (SRO), WVDHSEM

Supporting Partner: International Code Council (ICC)

Action:

- In counties and local communities without certified building code officials, provide certified professionals to enforce building codes (Intermediate)

Coordinating Agencies: WVDOC (SRO), local governments

Supporting Partner: ICC

Action:

- Amend the State building code to require local governments to adopt and enforce building codes (Long-term)

Coordinating Agencies: WVDOC (SRO), WVHSEM, Governor's Office

Supporting Partner: ICC

Objective: *By January 1, 2019 identify all remaining housing gaps in disaster-impacted communities and explore options to address non-affected low- and moderate-income families*

Strategy: Identify issues preventing individual household disaster recovery

Action:

- Conduct a study to identify and analyze housing gaps (Short-term)

Coordinating Agencies: WVDOC (SRO), WVHDF

Supporting Partners: HUD, USDA Counseling agencies, FEMA Case Management, EDA

Strategy: Address issues preventing individual household recovery

Action:

- Conduct workshops/seminars to educate local case managers, local and state governments and nonprofits on the availability and applicability of federal programs. (Short-term)

Coordinating Agencies: WVDOC (SRO), WVVOAD

Supporting Partners: HUD, USDA, CNCS

Strategy: Increase housing opportunities for low- and moderate-income households based on local market demands

Action:

- Access federal resources assisting disaster survivors, such as USDA-RDs Water and Waste Disposal and Home Repair Programs, and those the WVHDF provides (Short-term)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: HUD, USDA, SBA

Action:

- Coordinate efforts to work directly with regional and local governments to inform them of opportunities to improve the availability and affordability of housing during disaster recovery (Short-term)

Coordinating Agencies: WVDOC (SRO), WVHDF

Supporting Partners: USDA, HUD, Appalachian Regional Commission, Community Works WV

Action:

- Utilize USDA-RD properties and other assets to provide permanent housing opportunities to disaster survivors (Intermediate)

Coordinating Agencies: WVDOC (SRO), WVHDF

Supporting Partner: USDA, HUD

Action:

- Evaluate potential for a set-aside Housing Choice Voucher Program to provide permanent housing solutions to disaster survivors (Long-term)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: HUD, WVHDF, WVDOC

Action:

- Assess FEMA multi-family housing program for potential to create permanent housing opportunities to disaster survivors (Long-term)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: FEMA, WVHDF, WVDOC

Action:

- Address housing needs for nonimpact low- and moderate-income families, with potential resources such as those HUD, USDA, and WVHDF provide (Long-term)

Coordinating Agency: WVHDF

Supporting Partners: HUD, USDA, Appalachian Regional Commission, Community Works WV

Objective: *By end of 2019, make federal programs more flexible and less restrictive to quickly and efficiently accommodate disaster recovery*

Strategy: **Identify all Housing RSF partner programs that could be modified to be available to disaster survivors and impacted communities**

Action:

- Create protocols for waivers that will allow federal resources, such as the HOME funds program, not normally available for disaster recovery, to be made available following Presidentially-declared disasters (Intermediate)

Coordinating Agencies: FEMA, HUD

Supporting Partners: USDA, EDA, USACE

Action:

- Coordinate with federal program managers and fund administrators to ensure that such waiver adoption processes are in place (Intermediate)

Coordinating Agencies: FEMA, HUD

Supporting Partners: USDA, EDA, USACE, WVHDF, Community Works WV,
Appalachian Regional Commission

Strategy: Identify needed waivers to make federal programs applicable for disaster recovery

Action:

- Work with the responsible state agencies and fund administrators of federal programs to obtain all needed waiver requests (Intermediate)

Coordinating Agencies: FEMA, HUD

Supporting Partners: USDA, EDA, USACE, WVHDF, Community Works WV,
Appalachian Regional Commission

Action:

- Utilize best practices from previous disaster declarations to identify which federal programs are best suited to support disaster survivors and impacted communities (Long-term)

Coordinating Agencies: FEMA, HUD

Supporting Partners: USDA, EDA, USACE, WVHDF, Community Works WV,
Appalachian Regional Commission

ISSUE: Lack of Habitable and Environmentally Healthy Housing

Disasters affect underserved populations at a higher rate and intensity than the general population. The most vulnerable of these populations, including senior and low- and moderate-income families, are the least able to recover from a disaster. Floods can create unstable and unhealthy communities with moldy homes and blighted and abandoned neighborhoods.

Many West Virginia disaster survivors were suffering from unemployment and underemployment due to a significant downturn in the coal and other extractive industries before the disaster made their situation worse. Nearly 61 percent of the households FEMA referred for housing assistance were low- and moderate-income families according to the 2016 HUD Section 8 eligibility tables. The poverty level for West Virginia is 18.1 percent versus 15.6 percent nationally, according to the American Community Survey. Within the impacted West Virginia communities, the low- and moderate-income percentage ranged from 39 to 81 percent.

Goal: Address mold remediation issues

Flood waters can wick high into drywall and insulation. Without proper abatement, a persistent indoor health hazard will exist. FEMA estimates of flood damage do not consider mold mitigation costs.

Objective: *By April 30, 2017, complete all flood-impacted home mold remediation measures*

Strategy: **Encourage mold remediation in flood-affected homes**

Action:

- Identify leading edge mold remediation technology, strategies, and programs, including those listed by the Office of Technology and Innovation of the CDC (Short-term)

Coordinating Agency: WVVOAD, WVHDF, WVDOC (SRO)

Supporting Partners: HUD, HHS, EPA

Action:

- Coordinate with the Office of Lead Hazard Control and Healthy Homes within HUD to provide technical assistance for local mold remediation programs (Short-term)

Coordinating Agency: WVVOAD, WVHDF, WVDOC (SRO)

Supporting Partners: HUD, HHS, EPA

Action:

- Identify mold remediation funding available to households affected by disaster (Short-term)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: HUD, HHS, EPA, WVVOAD, WVHDF

Action:

- Complete all mold remediation projects (Short-term)

Coordinating Agency: WVVOAD, WVHDF

Supporting Partners: HUD, HHS, EPA, WVVOAD, WVHDF

Goal: Rural and small towns are absent of blighted or abandoned properties

Several vacant and/or dilapidated buildings existed before the flooding and others were created as a result of the floods.

Objective: *By July 2018 abate all blighted conditions in the 12 designated counties*

Strategy: **Identify and abate all destroyed, vacant, and derelict structures within the impacted communities and rural areas**

Action:

- Conduct a study to identify blighted and derelict properties (Intermediate)

Coordinating Agencies: WVDOC (SRO), State Coordinating Officer (SCO), WVHDF

Supporting Partners: EPA, HUD, RPDCs

Action:

- Develop a plan for funding and implementing a blight abatement program that may include environmental hazards (asbestos, lead, etc.) (Intermediate)

Coordinating Agencies: WVDOC (SRO)

Supporting Partners: EPA, HUD, HHS-CDC, RPDCs

Action:

- Remove and properly dispose of all destroyed, vacant, and derelict structures within the impacted communities and rural areas (Intermediate)

Coordinating Agencies: WVDOC (SRO), WVHDF

Supporting Partners: EPA, HUD, FEMA, WVARNG

Strategy: Encourage private redevelopment of blighted properties

Action:

- Develop incentive programs to encourage rehabilitation of homes (Short-term)

Coordinating Agencies: WVDOC (SRO), WVHDF, WVDOC

Supporting Partners: EPA, HUD

Action:

- Develop incentive programs to encourage rehabilitation of nonresidential properties (Short-term)

Coordinating Agencies: WVDOC (SRO), WVHDF, WVDOC

Supporting Partners: EPA, HUD

Goal: West Virginia housing is more energy efficient and environmentally sustainable

Objective: Double the energy efficiency and sustainability of the reconstructed housing stock in disaster impacted communities by December 2019

Strategy: Incorporate weatherization, energy efficiency and sustainable design in all recovery reconstruction

Action:

- Secure funding to incorporate weatherization, energy efficiency and sustainable design in all recovery reconstruction, such as those HUD, EPA, and NREL offer (Intermediate)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: NREL, HUD, EPA

Goal: Surface waters in impacted watersheds are free of untreated human waste

Flooding damaged or destroyed several hundred private, individual septic systems in many areas not served by public systems. Private leach fields, by necessity, are sited next to creeks and streams because of the narrow valley topography. Leachate from the damaged or destroyed septic systems readily flow into the creeks and streams, which happen to be regional tourism assets because of the many recreational opportunities they present.

Objective: By April 1, 2019 repair or replace all individual, private waste treatment systems damaged during the June flooding event

Strategy: Coordinate with the WVDEP, USDA, and EPA regarding the availability of funding to repair or replace all individual private water treatment systems damaged during the June flooding event

Action:

- Remediate damaged and destroyed individual, private waste treatment systems (Intermediate)

Coordinating Agencies: WVDOC (SRO), WVDEP, WVHDF

Supporting Partners: EPA, HUD, USDA

ISSUE: Lack of Resilient Housing Options

Many of the homes affected during this disaster have experienced multiple flooding events in recent years and will continue to suffer impacts in future events unless thoughtful and responsible mitigation measures are adopted. Since 2009 two of the designated counties have experienced six flooding disaster declarations.

Goal: Break the cycle of community disruption following disaster.

Objective: By July 2018 develop a plan to properly mitigate all impacted housing

Strategy: Relocate or elevate all damaged structures, including repetitive and severe loss structures affected by the June 2016 flooding event

Action:

- Conduct local workshops to encourage homeowners in high risk areas to relocate or elevate their homes (Intermediate)

Coordinating Agencies: WVDOC (SRO), WVDHSEM

Supporting Partners: FEMA, HUD

Action:

- Use mitigation reconstruction to elevate homes above the design flood elevation (Intermediate)

Coordinating Agency: WVDHSEM

Supporting Partner: FEMA

Action:

- Coordinate with the WVSHMO to ensure the availability of HMGP funds to mitigate repetitive and severe repetitive loss structures (Intermediate)

Coordinating Agency: WVDHSEM

Supporting Partners: WV Floodplain Manager, FEMA, Federal Insurance & Mitigation Administration (FIMA)

Action:

- Develop mitigation strategies to make homes resistant to sheet flow off of adjacent steep slopes (Intermediate)

Coordinating Agency: WVDHSEM

Supporting Partners: WV Floodplain Manager, FEMA, FIMA

Strategy: Remove substantially-damaged structures in the floodway

Action:

- Identify substantially damaged homes to be removed and use property acquisition where required in the floodway (Short-term)

Coordinating Agencies: WVDOC (SRO), WVDHSEM

Supporting Partner: NFIP

Strategy: Address sheet flow damages for housing outside the floodplain

Action:

- Conduct outreach/education program to encourage weatherproofing, etc. during repair and/or reconstruction (Intermediate)

Coordinating Agency: WVDHSEM

Supporting Partners: WV Floodplain Manager, FEMA, FIMA

Goal: Valley communities are more disaster resilient

Several factors must be considered when addressing a lack of resiliency in the existing housing stock including, but not limited to; a cultural bias against moving away from a community despite the susceptibility of the community to severe and repetitive losses following each disaster, a shortage of resources necessary to replace severely damaged or destroyed private water crossings, inefficient and outdated infrastructure, and the absence of meaningful discussion on the long-term resiliency of these communities.

Objective: By July 2017 provide small, rural valley communities with alternative housing recovery and adaptive reuse options

Strategy: Coordinate with federal and nonfederal resources to fund and publish a design study specific to small, rural, valley communities

Action:

- Schedule a workshop for interested state or regional planning, architectural, and engineering associations and organizations to develop design options for alternative housing and adaptive reuse specific to small, rural, valley communities (Short-term)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: CNCS, WV Humanities Council, WVAPA, WVU, AIA, ASCE, Association of State Floodplain Managers (ASFPM), FEMA Mitigation, WV Floodplain Management Association

Strategy: Support local communities to adopt any relevant aspects from the design study into their recovery strategies

Action:

- Incorporate applicable aspects of hazard mitigation and blighted and vacant property acquisition into the design study (Short-term)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: CNCS, WV Humanities Council, WV APA, WVU

Objective: *By January 1, 2018 rebuild private water crossings destroyed or severely damaged during recent flooding disasters*

Strategy: Define resources to mitigate damaged private water crossings

Action:

- Identify a list of damaged private water crossings (Short-term)
Coordinating Agencies: WVDOC (SRO), WVSHMO, WVVOAD
Supporting Partners: HUD, NGOs

Action:

- With the assistance of the WVVOAD develop detailed cost estimates to replace destroyed or severely damaged private water crossings (Short-term)
Coordinating Agencies: WVDOC (SRO), WVSHMO, WVVOAD
Supporting Partners: HUD, NGOs

Action:

- Identify non-governmental funding sources to support replacement of destroyed or severely damaged private water crossings including funding from private nonprofit and philanthropic organizations (Intermediate)
Coordinating Agencies: WVDOC (SRO), WVSHMO, WVVOAD
Supporting Partners: HUD, NGOs

Potential Resources

FEMA

[Flood Mitigation Assistance Grant Program \(FMA\)](#)

This program addresses financial needs. Specifically, the State has prioritized HMGP for Mitigation Reconstruction, and if those funds are exhausted in that mission, then FMA may be used for Mitigation Acquisition of destroyed homes in the floodway.

[Hazard Mitigation Data Collection Team](#)

Provides a report to the State on opportunities related to the disaster with the intent of combining section 404 and section 406 mitigation activities. Other data resources can provide the overall big picture of damages in context of floodway, floodplains, landslide areas, or other geospatial relationships. FEMA/State GIS may assist.

[HMGP](#)

This resource provides financial grants for State priorities of reconstruction, elevation, infrastructure, and acquisition of affected properties. HMGP for the State of West Virginia for this disaster is estimated, as of Jan 20, 2017 to be \$48,244,559 and will provide significant opportunities for Mitigation Reconstruction projects. This grant program requires a nonfederal match, currently of 25% of all State approved projects.

National Flood Insurance Program (NFIP), Increased Cost of Compliance

This program addresses the additional costs of structure elevation when mitigating homes against future floods. It specifically provides additional payments to NFIP insureds who elevate structures.

Pre-Disaster Mitigation Grant Program (PDM)

This program is similar in application to the FMA, and specifically may be used for Mitigation Acquisition and Demolition as well.

Private Property Debris Removal Program (PPDR)

FEMA's optional program has been authorized in this disaster. It provides the means through financial support to remove debris from private property with owner's permission. It aids communities in abating health and safety issues, as well as removes the private property owner's liability when no other funds are available.

HUD

CDBG Entitlement Program provides financial support, however, it has been consistently used in the State for water projects only, and is not expected to be diverted to any housing needs for the current disaster.

CDBG-DR

CDBG-DR funds have been appropriated by Congress for this disaster. WV is expected to receive \$17 million in CDBG-DR funds that may be applied to housing needs. If the HMGP uses CDBG-DR funds to fund the 25% local match, it is estimated that \$11 million would allow for Mitigation Construction, for example, to be no cost to the community applicants. These two programs alone will provide significant hazard mitigation in general and many new flood resilient homes to WV communities.

Additional HUD programs:

Capacity Building for Community Development and Affordable Housing Grants

Federal Housing Authority – Approved Nonprofits Program

Federal Housing Authority – Good Neighbor Next Door Sales Program

HOME Investment Partnerships Program

Housing Choice Voucher Program (Section 8)

HUD, DOT, and EPA – Partnership for Sustainable Communities

Mortgage Insurance for Disaster Victims

Office of Public and Indian Housing – Indian CDBG Program

Office of Public and Indian Housing – Main Street Grants Program Hope VI

PD&R Disaster Recovery Toolkit

Public Housing Program

Sustainable Communities Initiative Resource Library

WVU

From Liability to Viability, A Legal Toolkit to Address Neglected Properties in West Virginia

A community guide of principals to assist in dealing with neglected properties. This guide is technical assistance to provide legal guidance towards remediating unsafe and unhealthy structures that contribute to blight.

VOAD

WVVOAD Private Bridge Replacement Guidelines

Guidelines for design and construction of private bridges to replace water crossings that were destroyed by the floods. The goal of this project is “Resiliently Bridging the Gap.” It is technical guidance that has been accepted across regulatory and compliance entities. It addresses the homes that have had repeated access impacts.

Establishment of the new West Virginia Development Office of Economic Resiliency

Its purpose is to better prepare communities for extreme events (i.e., floods, storms, severe downturn in economic sectors) through innovative resilience projects. For the first three years it will focus on the intermediate and long-term recovery needs in the impacted communities in southern West Virginia after the devastating floods. This office will immediately be charged with the development of a long-term resiliency plan with engagement from our local communities. It will serve as the conduit for federal funds and initiatives that become available and will aggressively engage in the pursuit of additional funds and resources to assist with long term sustainable recovery efforts.

Because economic resilience is not something that just occurs after a flood strikes this office will be permanently charged with the ongoing process of community development that increases our capacity to avoid, mitigate, and recover from shocks. Its mission will be to assist West Virginia with reducing future economic exposure to hazards while increasing short-term revenues and gains. It will collaborate with federal, state, local, and private sector partners to further economic objectives while improving resilience.

THE TYLER & MOENCH FRAMEWORK — THE BASICS

Ira Feldman

November 29, 2016



TYLER & MOENCH

- The **framework** provides a **simple organizing rubric** that is well rooted in the theory and practice of multiple fields...
 - *Resilience, preparedness, adaptation, hazard mitigation*
 - *Interdisciplinary, systems thinking*
 - *All-hazards approach*
- The framework is a tool for **scoping and assessing vulnerability to hazards** by helping practitioners to systematically consider the weaknesses of systems, agents and institutions exposed to stressors.
 - Not prescriptive, includes familiar concepts and principles
 - We will use the elements of the framework that work in the West Virginia context



TYLER & MOENCH

- **Resilience** is “the ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity of self-organization, and the capacity to adapt to stress and change.”
- There are varied and contradictory definitions of resilience, and there has been an absence of a framework for operationalizing the concept.



TYLER & MOENCH

- The standard approach to planning *relies on prediction as the basis to identify avenues for prevention*. These “**predict and prevent**” approaches have been **criticized for their limited ability** to deal with surprise.
- Instead of focusing on discrete measures to adapt to specific perceived future risks, Tyler & Moench suggest it may be more effective to consider the problem as one of **enhancing resilience**.



TYLER & MOENCH

- ...by focusing on interventions that respond to specific impacts, the traditional approach may neglect indirect effects, systemic weaknesses or institutional constraints.
- ...the traditional planning approach tends to under-emphasize the role of learning and governance as essential elements of ongoing adaptive management.



TYLER & MOENCH

- The origin of the term 'resilience' in metallurgy and engineering implies **strength and resistance**, but in its more recent applications in ecology, socio-ecological systems, disaster management and urban sustainability, resilience is understood to require **flexibility, learning and change**.
- Resilience building as a strategic approach has many advantages over conventional system management for **complex social-ecological systems that are dynamic and facing high uncertainty**.



TYLER & MOENCH

- A proposed framework for understanding and building enhanced “resilience”
 - reviews concepts and theories in a range of diverse fields to illustrate how the general notion of resilience can be developed into **an operational framework for planning practitioners.**
 - operationalizes these concepts through structured and iterative **shared learning approaches** that allow **local planners** to define these factors **in their own context**, in order to develop **practical strategies for local action.**



TYLER & MOENCH -- RESILIENCE

- **Vulnerability** to hazards occurs when fragile, inflexible **systems** and/or marginalized or low-capacity **agents** are exposed to increased hazards, and their ability to respond or shift strategies is limited by constraining **institutions**.
- **Resilience** is high where **robust and flexible systems** can be accessed by **high-capacity agents** and where that access is enabled by **supportive institutions**.



TERMINOLOGY

- The framework identifies three component elements of resilience: systems, agents and institutions
 - Systems = Built infrastructure systems
 - Agents = Human systems (individuals and organizations)
 - Institutions = Legal & Cultural Norms (the “rules of the game”)
- The framework has been applied in communities in the US and in Asia



TYLER & MOENCH

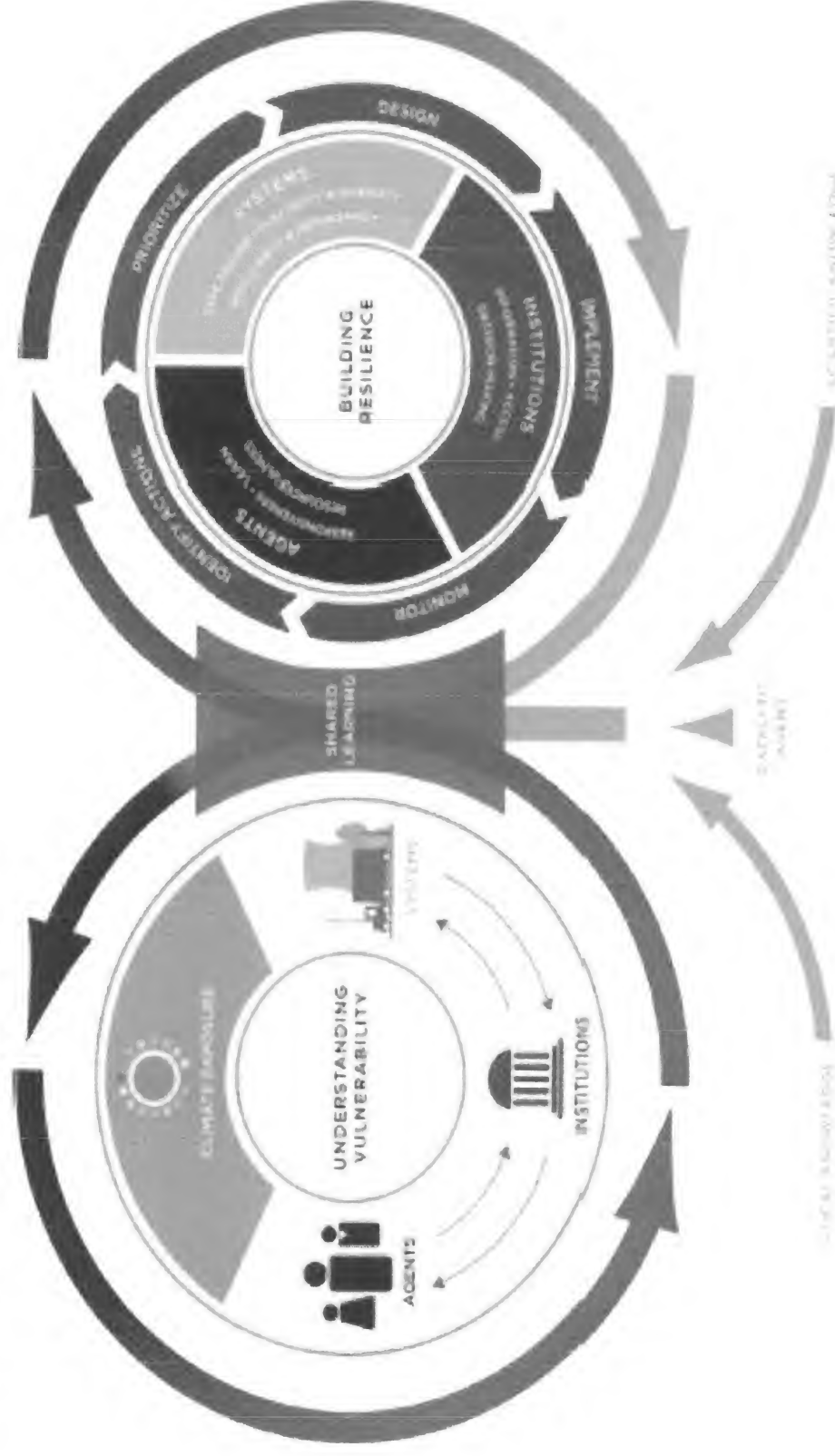


Figure 2. Applying the framework to resilience planning (used by permission).

TYLER & MOENCH

- **Vulnerability assessment** is undertaken first so that subsequent resilience building interventions can **focus on those groups or systems that are most vulnerable to the anticipated hazards**.



TYLER & MOENCH -- SYSTEMS

- Core or “critical” systems are essential to community function
- These systems include: water and food supply, and the ecosystems that support these, as well as energy, transport, shelter and communications
- Their failure jeopardizes human well-being in all affected areas, and precludes higher order economic activity until their function is restored



TYLER & MOENCH -- SYSTEMS

- **Resilient systems**, in contrast to **robust systems**, ensure that functionality is retained and can be rapidly reinstated through system linkages despite some failures or operational disruptions.
- *Increasing the inherent capacity of complex systems to manage a range of stresses and shocks* better enables such systems to deal with surprise.
- Resilient systems seek to avoid the “*cascading*” effect of failure of interdependent systems.
 - *Flexibility*
 - *Redundancy, modularity*
 - *Safe failure*



TYLER & MOENCH -- AGENTS

- **Agents**, or *actors in systems*, comprise the second key element in the resilience framework.
- They include **individuals** (e.g. farmers, consumers); **households** (as units for consumption, social reproduction, education, capital accumulation); and **private and public sector organizations** (government departments or bureaus, private firms, civil society organizations).



TYLER & MOENCH -- AGENTS

- **Resilience is not a characteristic that is evenly spread through the population.**
- It depends on the socially differentiated capacities of different groups and individuals.
 - Poverty, gender, ethnicity and age have all been documented as contributing to differential vulnerability of social groups to hazards, through features such as the quality of housing, location and access to services or social networks
- *Responsiveness, Resourcefulness, Capacity to Learn*



TYLER & MOENCH -- AGENTS

- Adaptive capacities of other social organizations are also important to resilience.
- The role of local governments and of community organizations is crucial here... these are the primary sources of organization and delivery of key planning, prevention and response services (e.g. land use, building controls, emergency services)
- The capacity to access a range of assets or resources in order to take action includes *the collective effort to use a wide range of knowledge to assess risks.*



TYLER & MOENCH -- INSTITUTIONS

- The concept of institutions in social sciences refers to the **social rules or conventions that structure human behavior and exchange in social and economic interactions.**
- Institutions condition and govern the way that agents and systems interact to respond to stress.
- Institutions may be formal or informal, overt or implicit, and are created to reduce uncertainty, to maintain continuity of social patterns and social order, and to stabilize forms of human interaction in more predictable ways.



TYLER & MOENCH -- INSTITUTIONS

- **Governance** (i.e. the process of decision making) is an important factor affecting resilience.
- **Decision-making processes** that build resilience for vulnerable groups are likely to be **participatory and inclusive**, allowing those **individuals and groups most affected by hazards** to play an active role in determining how best to avoid them.



TYLER & MOENCH -- INSTITUTIONS

- **Public information** is an important component of a positive institutional environment.
 - Communities who have access to timely hazard information are better able to respond to hazards.
 - *Institutional structures that foster learning and change are important tools to build agent capacity.*
- Rights and entitlements are linked to system access; Decision-making processes; Information flows; and Application of new knowledge.



Meeting Summary v2.0

A Resilient Legacy for West Virginia Stakeholder Workshop

Hosted by the WV Department of Environmental Protection
601 57th Street
Charleston, West Virginia
9:30AM to 4:00PM



November 29, 2016

Participants

- Brian Aluisse, Office of the Governor - Department of Commerce
- Bob Baber, Richwood, WV
- James Bush, West Virginia Development Office
- Pat Campbell, WV Department of Environmental Protection
- Laura Conley-Rinehart, Department of Highways
- Gary Criner, West Virginia National Guard
- Allison Eckman, West Virginia Land Use and Sustainable Law Clinic
- Brian Farkas, West Virginia Conservation Agency
- Matt Ford, CORE Environmental and Greater Greenbrier County Long Term Recovery Committee
- Bethany Freeman, WV VOAD
- Patti Hamilton, WV Association of Counties
- Randy Huffman, WV Department of Environmental Protection
- Rusty Joins, WV Dep't of Environmental Protection – Homeland Security Emergency Response
- Al Lisko, West Virginia Division of Homeland Security
- Scott Mandirola, West Virginia Department of Environmental Protection
- Vivian Parsons, County Commission Association
- Jennifer Pauer, DEP Stream Partners
- Rob Rice, West Virginia DEP – Abandoned Mine Lands
- Jesse Richardson, WVU College of Law
- Kevin Snyder, FEMA
- Dennis Stottlemeyer, West Virginia Department of Environmental Protection
- Russell Tarry, West Virginia Development Office
- Mary Jo Thompson, West Virginia Development Office
- Kelly, Workman, CDBG Program Manager – WVDO
- James, Young, Kanawha County Planning and Development Office

And the ILI Team:

- Adam Saslow, Institute for Local Innovations
- Kandi Brown, NewFields Government Services
- Ira Feldman, greentrack Strategies
- Peter Soyka, Soyka & Company, LLC

The meeting opened at 9:35AM.

The organizers had expressed several goals for this workshop:

1. Frame the scope of and process for executing this project
2. Review and discuss the existing bodies of work on preparedness and resilience in the state
3. Identify ongoing flood management efforts in and around West Virginia
4. Present the Tyler and Moench framework for climate resilience, and
5. Consider the potential for application of the Tyler and Moench framework in two watersheds, and perhaps more broadly.

Welcoming Remarks

Randy Huffman, West Virginia Department of Environmental Protection

Mr. Huffman noted the reason he brought the group together was to address flooding events around the state, recognizing that they will happen again and again. Communities will always struggle to rebuild. He wants the group to focus on WV Resiliency Planning, not flood prevention. Key aspects of good planning address:

- Minimizing the impact to public health, the economy and the environment
- Providing redundancy of infrastructure
- Recognizing flood plains and their impact on zoning and road building.

He doesn't want this group's work to be a duplication of the 2004 Flood Plan but be a natural progression of that work. He insisted that we are not convened to "reinvent the wheel" and DEP does not "own this project"

Once funded, the hope is that Phase II pilot testing will focus on two watersheds with potential expansion to others as funding is identified and made available.

He noted appreciation of the diversity of the group and that their efforts would ultimately result in saving lives and reducing the cost of rebuilding.

Introductions and Administritivia

Adam R. Saslow, Senior Facilitator, Institute for Local Innovations

All attendees introduced themselves, the organization that they are with, and their roles in recent flood events.

Amidst the introductions, Ms. Patti Hamilton with the Association of Counties informed the group that they had conducted a long term planning workshop (with PWC) in late August with 60+ in attendance.

Mr. Richardson with WV University noted they have produced 35 Comprehensive Plans for communities which also address resiliency issues.

*** Note that the ILI Team is looking to acquire any and all documentation on the above and will be happy to forward whatever is collected. ***

The Project Context

Presented by Ira Feldman and Peter Soyka, the ILI Team

Mr. Soyka kicked off this section with presentation of Project Context slides (Attachment A) as a means for setting the stage for the conversations today. Attributes of floods and disasters and their mitigation or magnifying factors were discussed. He noted that the project would be executed in three phases.

- Fact finding
- Community level engagement
- Pilot testing.

Phases 2 and 3 are not currently funded.

Mr. Campbell asked for clarification on the timing of Phases 2 and 3. Mr. Soyka responded that these phases would, hopefully, be completed by the end of 2017 if funding becomes available.

Mr. Farkas noted they he was having trouble envisioning what “success” would be for this project. Mr. Soyka responded that success would mean that within an impacted community they would have capacity to better anticipate issues, prepare for events, and quickly rebound from disaster. Mr. Farkas and Mr. Soyka agreed that the framework could help with long term placement of public infrastructure factoring in risk and cost. Mr. Feldman further noted that a successful framework would help WV develop a coherent, enhanced, integrated systems approach to all-hazards preparedness - not only focusing on climate change but also the full range of hazards -- natural and manmade.

Progress in West Virginia – This Effort Involves Leveraging All That Has Been Done

Brian Farkas, WV Conservation Agency

Al Lisko, WV Division of Homeland Security

Kelly Workman, WV Department of Commerce

Kevin Snyder, FEMA

Panelists had been invited to discuss the 2004 Flood Management Plan, the HUD application for the National Disaster Resilience Competition, as well as efforts by FEMA to collaborate and coordinate with various governmental entities.

Mr. Farkas: Achievements of the Flood Management Plan of 2004

Issue	WVCA Perspective
The types and extent to which actions were implemented	<p>Try to convince people “that dredging is not the answer to flooding.” Stormwater management is an aspect of the plan that is “not working.” They are funded under the Clean Water Act to do education and training. However, it isn’t working and soil still gets into the rivers.</p> <p>2005—Senate considered a bill to create a Flood Protection Planning and Advisory Council which died in the House. In 2008 the plan was tweaked and reintroduced but it died in the Senate.</p> <p>Since then, each agency seems to work in its own silo. They then scramble to address crises.</p> <p>713u—gives counties authority to deal with flooding including remove debris, etc. Levies are authorized. Very important, but implementation is spotty</p>
How well they worked	<p>Counties have local plans, unclear they have been implemented. “Some of the plans have been implemented, but not necessarily in the name of the larger flood plan.”</p>
Lessons learned from their implementation	<p>Enforcement if the critical issue for success.</p> <p>The plan was adequate but no one was tasked with implementation and enforcement. “The plan tried for a paradigm shift, but it was not understood and then left alone.”</p>

Issue	WVCA Perspective
Remaining gaps requiring attention	<p>People “can’t be allowed to move from one substandard home to another substandard home.”</p> <p>Now is a good time to revisit the plan.</p>

Mr. Lisko: Achievements of the Flood Management Plan of 2004

Issue	DOH Perspective
The types and extent to which actions were implemented	<p>Mr. Al Lisko reviewed the recommendations listed on page 5 of the Flood Plan’s Executive Summary.</p> <p>State law—limits planning, restrictions to the minimum needed to get flood insurance. Law is opposed by land use advocates who see it as an “infringement of rights.”</p> <p>Management has improved over time, but varies a lot by community. Politics govern.</p> <p>Business and community leaders are very influential in the administration and enforcement of ordinances. The Richwood schools, for example, may be rebuilt in the floodplain.</p> <p>There is no penalty on communities for not enforcing ordinances. No penalties from FEMA.</p> <p>Inadequacy of flood warning systems - especially where not monitored (smaller streams).</p> <p>Flood plain mapping using LiDAR (vs 100 year flood plain) is available and being updated to include property parcels.</p> <p>Flood damage assessment is lacking. No one has time to record the history of these events. WV NG has a good record of resulting demolitions.</p> <p>Building codes are a tough sale. But Jesse Richardson counters that this is changing and is being vetted in Comprehensive Plan development. He thinks the change is driven by desire to access grant funding which requires planning.</p>
How well they worked	The WV Flood Plain Management Annual Meeting was noted as a success story for education.
Lessons learned from their implementation	Flood planning is all local. Needs local political support. They have developed 3 separate plans for resiliency and none are being implemented.
Remaining gaps requiring attention	<p>A lot is not working well.</p> <p>FEMA can only rebuild what was lost, but it cannot pay for a comprehensive upgrade of systems.</p> <p>Local communities say “Gimme, gimme, gimme,” but then do not have the ability to maintain structures or even facilities.</p> <p>Maximum federal assistance per family is \$33,000. SBA Loans provide additional relief. In some cases, SBA loans are a first step.</p> <p>Inadequate resources are afforded for resiliency. The state hungers for economic development and that takes priority over mitigation. “What good is a house if I do not have a job?”</p>

Ms. Workman: National Disaster Resilience Competition

Issue	DOC Perspective
The types and extent to which actions were implemented	<p>Ms. Workman presented the slides in Attachment B.</p> <p>The HUD plan also recommended the establishment of a Resiliency Council.</p> <p>App designed around local consultation. Held meetings with County commissions, EM people, many others.</p> <p>Used “Adjust, Adapt, Advance” concept.</p>
How well they worked	<p>Not funded. Among other feedback, HUD was looking for more innovation.</p> <p>Advance phase: biggest portion. Move people out of floodplain. PMLD—use reclaimed mined land. Of the \$142M application, \$110M was for reclaimed mines.</p> <p>“A tiny needle to thread” – it was tough to find WV communities that met HUD criteria. Most distressed; most impacted; unmet needs. See slide with HUD scoring criteria.</p> <p>Only 5 WVA counties met the criteria – Lincoln, Logan, McDowell, Mingo, Wyoming, and Boone.</p> <p>Housing data tough to find, so had to use other criteria.</p> <p>Needed to show replicability, provide leverage. Had other federal support, but no state funds to offer. Needed more environmental enhancement.</p>
Lessons learned from their implementation	<p>Overall, it was a robust competition and a rewarding experience.</p> <p>People now aware of resilience concept, may be more supportive of making investments.</p> <p>Great concepts to use:</p> <ul style="list-style-type: none"> - Council - Data portal (like KY) - Integration of resilience, zoning, flood plain management processes that prevent flooding. <p>Winners were recognized for good long-term resilience planning. Some had long term plans on the books and were a bit ahead of West Virginia. Winners included: Tennessee’s “Rural by Nature”; Shelby County’s “Greenprint for Resilience”; Connecticut “Coastal Resilience Plan.”</p> <p>Debrief—needed more innovation, green elements. Leverage not enough. Needed a theme. We may have also been hurt by the perception that we would not have been able to spend funds quickly, (i.e., capacity, and according to their rules). No banking or corporate partners participated. Few private foundations in WV. Population density may have been an issue as well (New York City and others got money).</p> <p>Division of Highways agreed to match funds for PMLD activity, but few other matches found.</p> <p>HUD is moving toward Smart Growth.</p>

Mr. Farkas noted that he is now seeing Agriculture agencies funding NGOs rather than states as it gets money out and on the ground more quickly. That speaks to the leverage issue as well.

Snyder – FEMA Coordination

Issue	FEMA Perspective
The types and extent to which actions were implemented	<p>Big event like this summer's flood requires federal-wide response, not just the National Flood Insurance Programs. The federal government deploys people and resources based upon needs (including but not limited to housing, health, social services and others).</p> <p>The National Guard provided introduction to many local entities and organizations. We knew conditions on the ground in affected communities.</p> <p>Disasters accelerate downward spiral of troubled communities.</p> <p>FEMA tries to work across silos – FEMA, EDA, HUD, ACE.</p>
How well they worked	
Lessons learned from their implementation	<p>"A tragic event, but with opportunities."</p> <p>"Exciting...opportunities to leverage."</p>
Remaining gaps requiring attention	<p>"How to define roles and responsibilities."</p> <p>Field coordinators have other duties.</p>

Participants noted that there is some interest (Mercer County) in developing comprehensive zoning ordinances. Businesses and lenders now demanding plan, building codes, zoning. This is especially important near the Virginia border, with new arrivals to West Virginia.

Many individuals noted that most resilience work is an "other duty as assigned." As such, staff can assemble people for special tasks, but continuity is really hard.

Roundtable Discussion of Other Initiatives and Activities Related to Resilience and Flooding

Speaker	Organization	Commentary
Matt Ford	GGLT	<ul style="list-style-type: none"> • Role is "to connect the dots." People, organizations and un-met needs. • Lots of overlap among groups and what they are working on. • Need to know what's out there, what we can contribute to. • 200 cases of damage this year, but had 1100 apply. • Need to reconcile economic development and flood mitigation. • Challenged FEMA's cap on maximum compensation.
Kelly Workman	WVDO	<ul style="list-style-type: none"> • Willing to contribute thoughts and expertise as needed.
Vivian Parsons	County Commissioners Association	<ul style="list-style-type: none"> • Role is troubleshooting and connecting people. • Provides training to members.